

CHAPTER 4: COAL IN MONTANA

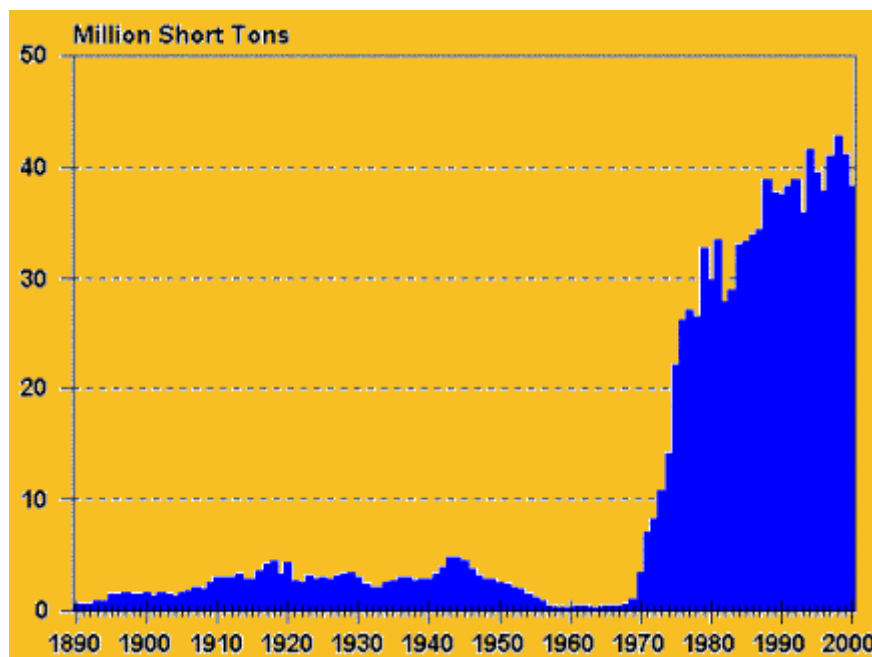
The Montana coal industry exists to support the generation of electricity. All but a tiny fraction of the coal mined in Montana eventually is converted to electricity. In recent years, over half the electricity generated in Montana has come from coal-fired plants. Almost three-quarters of the coal mined in the state is exported, primarily to Midwestern utilities. Even though new generating stations built around the country in recent years have relied on natural gas or wind, coal continues to provide the majority of the nation's electricity.

1. Production

Montana is the sixth largest producer of coal in the United States, with over 38 million tons mined in 2000 (Table C1). Almost all the mining occurs in the Powder River Basin south and east of Billings. With the exception of the small lignite mine at Sidney, Montana production is entirely low-sulfur subbituminous coal, with around 18 million Btu per ton. Like most Western coal, Montana coal is cleaner but lower in heat content than coal mined in the East.

Coal has been mined in Montana since territorial days, first as a heating fuel and later primarily for the railroads. Production initially peaked in the 1940s at around 5 million tons (see Figure C1). As steam locomotives were phased out, production declined, bottoming in 1958 (Table C2).

Figure C1. Historical coal production

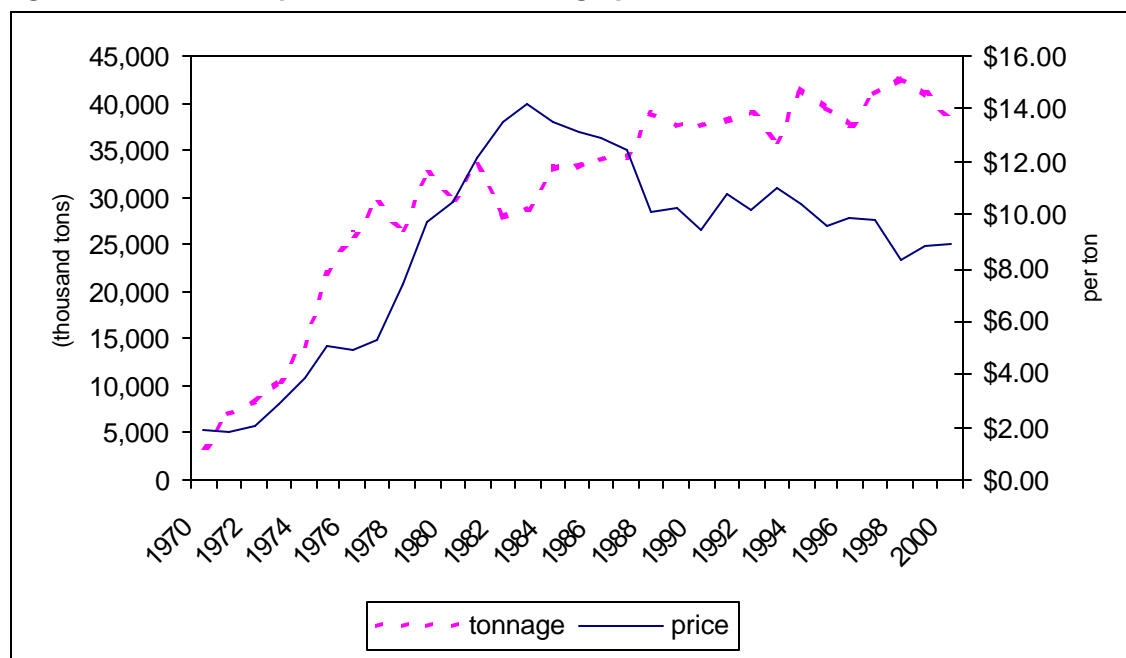


Source: United States Department of Energy, Energy Information Administration (<http://www.eia.doe.gov/cneaf/coal/statepro/imagemap/mt.htm>)

That year, only 305,000 tons were mined, an amount equivalent to less than 1 percent of current output. Output remained stagnant for a decade, maintained by production for a small generating plant opened in Sidney in 1958 by Montana-Dakota Utilities. Production began to grow again in 1968, when Western Energy Company began shipping coal from Colstrip to a generating plant in Billings owned by its parent, Montana Power Company.

As Montana mines began supplying electric generating plants in Montana and the Midwest, coal production jumped. Production in 1969 was 1 million tons; ten years later, it was 32.7 million tons. Since the end of the 1970's, production has increased gradually to around 40 million tons (Table C2; see Figure C2). Over the last decade, its modest increase in production allowed Montana to more or less maintain its share of the U.S. market. In comparison most eastern states lost market share during this decade, primarily to Wyoming. Western states other than Wyoming followed a path similar to Montana, more or less maintaining market share. Over the past decade Montana has produced a little less than 4 percent of the coal mined each year in the U.S.

Figure C2. Montana production and average price

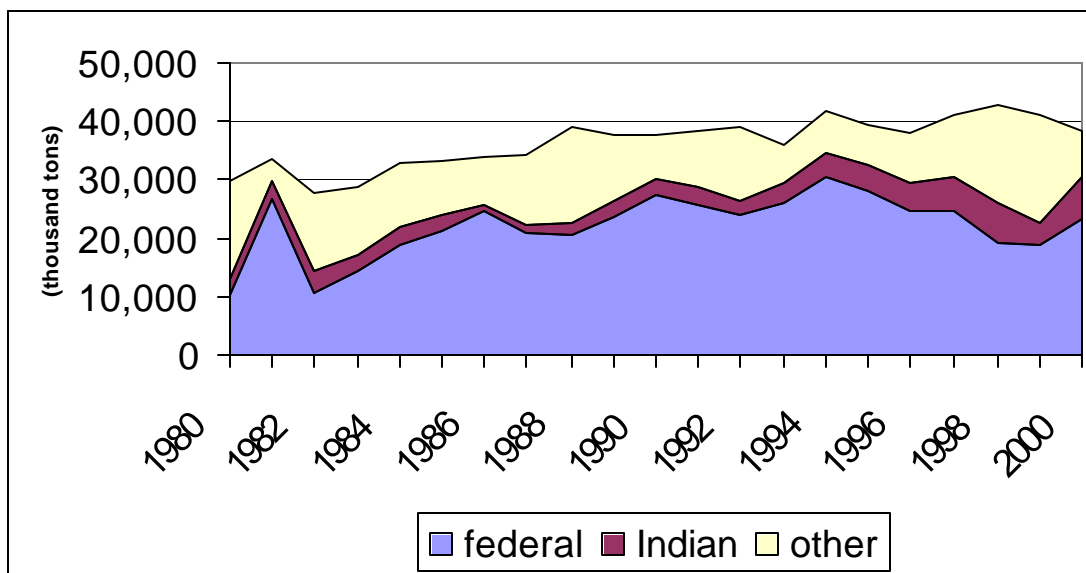


Source: Table C2.

The price of Montana coal averaged \$8.87 per ton at the mine in 2000 (Table C2); this includes taxes and royalties. The price of coal has been on a downward trend since the early 1980's, when the average price of coal peaked at \$14.22 per ton (\$22.10 in 2000 dollars). By 2000 that price had fallen 60 percent in real terms. The decline in Montana prices mirrors the decline in prices nationally.

Most coal in Montana is mined on federal lands (Table C3; see Figure C3). A significant portion also comes from Indian reservations. In 2000 about 60 percent of Montana coal came from federal lands and under 20 percent from reservation lands.

Figure C3. Production by land ownership type



Source: Table C3

Montana had seven coal mines in operation in 2001 (Table C4). The largest were Westmoreland's Rosebud Mine at Colstrip and Kennecott Energy's Spring Creek Mine near Decker, each producing around 10 million tons per year. During the 1990's, the last Montana mine producing less than 100,000 tons annually closed. A proposed new mine at that site, near Roundup, is in the process of obtaining permits. No major new mines have opened since 1980, though the West Decker and Spring Creek mines have expanded significantly.

Westmoreland is the largest producer in Montana, accounting for 44 percent of 2001 production. Kennecott is the second largest, accounting for 25 percent of coal production outright and holding a half-interest in mines producing an additional 24 percent of Montana coal. 2001 marked the passing of an era in Montana coalfields. With Westmoreland buying Montana Power Company's Western Energy and MDU Resources Group's (Knife River Coal) Savage Strip Mine, over 40 years of utility ownership of operating coalfields in Montana came to an end. Utility production had been substantial. MPC, through Western Energy, was the 11th largest producer in the country in 1998.

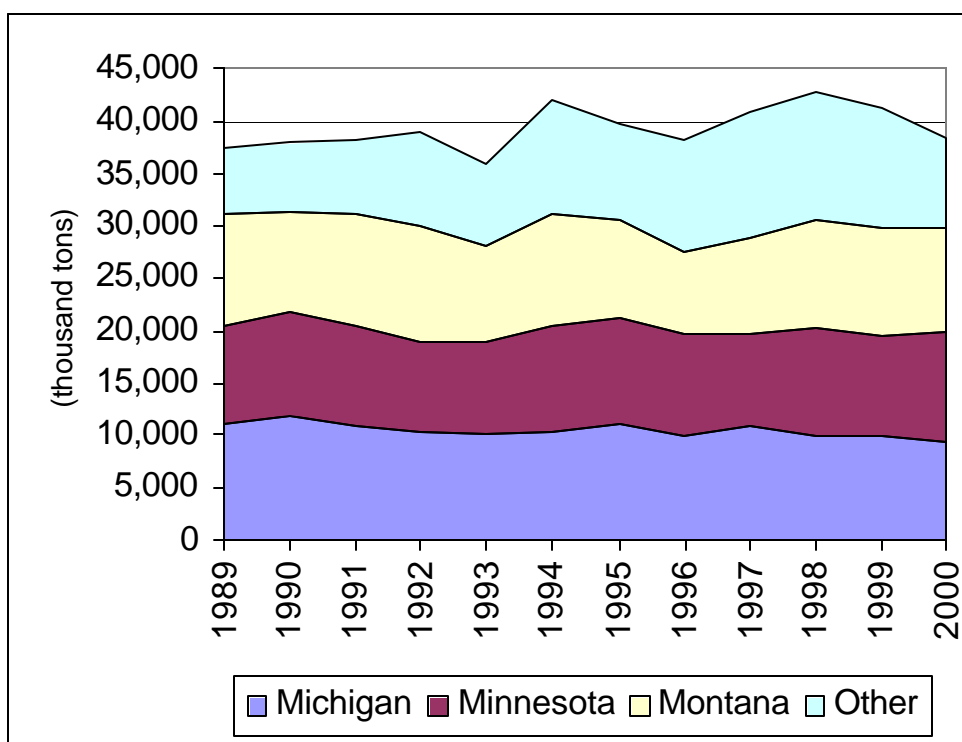
2. Consumption

About 95 percent of the coal consumed in Montana is used to generate electricity. Montana coal consumption has been more or less stable since the late 1980's, after Colstrip 4 came on

line (Table C5). Minor amounts of residential and commercial heating and some industrial use account for the remainder.

Almost all of Montana coal production is used to generate electricity (Table C6). In recent years, about 74 percent has been shipped by rail to out-of-state utilities, about 9 percent has been burned to produce electricity for in-state customers and about 15 percent had been burned to produce electricity and shipped by wire to out-of-state utilities. Over the last decade, Michigan, Minnesota and Montana have each taken about a quarter of all the coal produced in Montana (Table C7; see Figure C4). The remaining quarter has gone to 21 other states, Canada and overseas.

Figure C4. Destination for Montana coal



Source: Table C7.

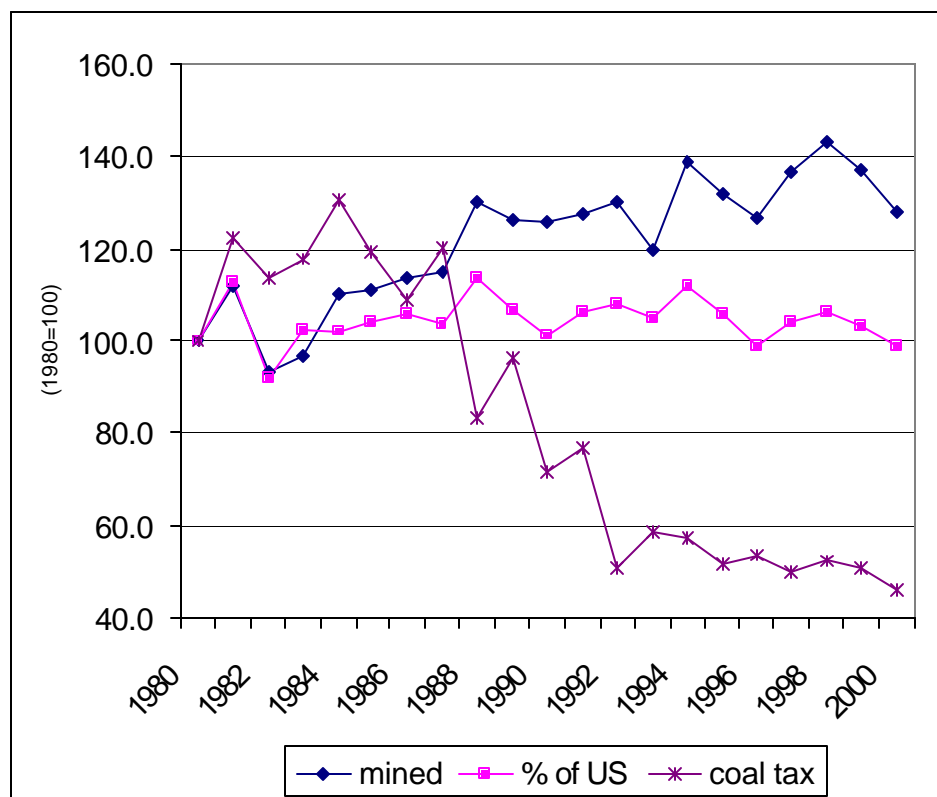
3. Coal Economics

The Montana industry, like the coal industry nationwide, has become more productive, with the number of employees dropping even while the amount of coal mined increased (Table C8; see Figure C5). Taxes on coal, despite decreases from historical highs, remain a major source of revenue for Montana, with \$32.3 million collected in state fiscal year 2001 (July 2000-June 2001). That is about one-third in nominal terms the amount collected in 1984. Coal severance tax collections dropped due to changes in the tax laws that began with the 1987 Legislature

and due to the declining price of coal. While the tax rates vary based on a number of factors, the rate on most coal in Montana has dropped from 30 percent to 15 percent of price. This drop in rates has had a bigger impact on tax collections than the drop in the price of coal. The impact on levels of coal production is less clear. Production has risen modestly since the cut in taxes and Montana has been able to retain almost all of its share of the national market.

While significant, Montana's output is dwarfed by Wyoming, which produced 31.6 percent of the country's output in 2000. This is nine times as much coal as Montana produced. This probably is due to a combination of physical factors that make Montana coal less attractive than coal from Wyoming. Montana coal generally is more costly to mine because the coal seams tend to be thinner—though still thick in comparison to eastern coal—and buried deeper than seams in Wyoming. Moreover, Wyoming coal has slightly higher average Btu content and slightly lower average ash and sulfur content than Montana coal.

Figure C5. Changes in Montana production, share of U.S. market and severance tax collections



Source: Table C8.

The cost of transportation to distant markets may also affect the competitiveness of Montana coal. Nearly all coal exported from Montana leaves on Burlington Northern Santa Fe lines. Some is later transhipped by barge. Transportation costs can double to more than triple the delivered cost of Montana coal bought by out-of-state generating plants. Though transportation costs have fallen over the last fifteen years, the minemouth cost of coal has

fallen faster, making transportation a larger component of final cost. Coal shipped from the Powder River Basin (Wyoming and Montana) now has the highest ratio of transportation cost to delivered price, on a per ton basis, for U.S. coalfields. The cost of Montana coal may be further affected by the rail transportation network being better developed in the southern end of the Powder River Basin than in the northern end. (U.S. Department of Energy, Energy Information Administration *Energy Policy Act Transportation Rate Study: Final Report on Coal Transportation*, 2000).